The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
William A. Hinton State Laboratory Institute
305 South Street, Jamaica Plain, MA 02130

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

JUDYANN BIGBY, MD
SECRETARY

JOHN AUERBACH
COMMISSIONER

06/09/2011

Kimberly Cronin
Assistant District Attorney, Plymouth County

Dear ADA Cronin,

Enclosed is the information you requested in regards to Commonwealth vs. [redacted]
Included are copies of the following:

1. Drug Analysis Laboratory Receipt.
2. Curriculum Vitae for Mai N. Tran and Annie Dookhan.
3. Control Cards with analytical results for samples # [redacted]
4. The guidelines and recommendations of SWGDRUG.

Min Tran and Annie Dookhan was the custodial chemist and performed the testing and net weight for this sample.

If you have any questions about these materials, please call me at the number below.

Sincerely,

Annie Dookhan
Chemist II
Drug Analysis Lab
Jamaica Plain, MA. 02130
(617) 983-6631

PLEASE PRINT CLEARLY OR TYPE ALL INFORMATION

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute

Boston Drug Laboratory
Tel (617) 983-6622
Fax (617) 983-6625

Amherst Drug Laboratory
Tel (413) 545-2601
Fax (413) 545-2608

Boston Hours
8:00 – 11:00
2:00 – 4:00

DRUG RECEIPT

Amherst Hours
9:00 – 12:00
1:00 – 3:00

City or Department: Plymouth P.D. **Police Reference No.:** [redacted]

Name and Rank of Submitting Officer: Detective Robert Morse

Defendant(s) Name (last, first, initial):
[redacted]

To be completed by Submitter **Description of Items Submitted**	*To be completed by Lab Personnel* **Gross Weight**	**Lab Number**
4642 1 Bag Marijuana	38.29 gm	[redacted]
4643 1 Bag Marijuana	33.58 gm	
4644 1 Bag Marijuana	34.61 gm	
4645 1 Bag Marijuana	41.71 gm	
4646 1 Bag Marijuana	36.16 gm	

Received by: [signature] **Date:** 11.12.10

PLEASE PRINT CLEARLY OR TYPE ALL INFORMATION

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute

Boston Drug Laboratory
Tel (617) 983-6622
Fax (617) 983-6625

Amherst Drug Laboratory
Tel (413) 545-2601
Fax (413) 545-2608

Boston Hours
8:00 – 11:00
2:00 – 4:00

DRUG RECEIPT

Amherst Hours
9:00 – 12:00
1:00 – 3:00

City or Department: Plymouth P.D **Police Reference No.:** [redacted]

Name and Rank of Submitting Officer: Detective Robert Morse

Defendant(s) Name (last, first, initial): [redacted]

To be completed by Submitter **Description of Items Submitted**	*To be completed by Lab Personnel* **Gross Weight**	**Lab Number**
4647 1 Marijuana plant clipping #1	21.42 gm	[redacted]
4648 1 Marijuana plant clipping #2	21.39 gm	

Received by: [signature] **Date:** 11.12.10

PLEASE PRINT CLEARLY OR TYPE ALL INFORMATION

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
State Laboratory Institute

Boston Drug Laboratory
Tel (617) 983-6622
Fax (617) 983-6625

Amherst Drug Laboratory
Tel (413) 545-2601
Fax (413) 545-2608

Boston Hours
8:00 – 11:00
2:00 – 4:00

Amherst Hours
9:00 – 12:00
1:00 – 3:00

DRUG RECEIPT

City or Department: Plymouth P.D. **Police Reference No.** [redacted]

Name and Rank of Submitting Officer: Detective Robert Morse

Defendant(s) Name (last, first, initial): [redacted]

To be completed by Submitter **Description of Items Submitted**	*To be completed by Lab Personnel* **Gross Weight**	**Lab Number**
4676 1 Stop + Shop bg. w/ Marijuana	76.14g	[redacted]

Received by: DJT **Date:** 12-14-10

Curriculum Vitae

Annie Khan (Dookhan)

Education:
University of Massachusetts, Boston, Ma, Master of Science in Chemistry.
University of Massachusetts, Boston, Ma, Bachelor of Science in Biochemistry.

Experience:
2003 – present
Chemist I, II, Massachusetts Department of Public Health, Drug Analysis Laboratory

*Completed six-week training course conducted by senior staff within the Department of Public Health, Drug Analysis Laboratory.
*Appointed Assistant Analyst by Assistant Commissioner of Public Health, 2004.
*Responsible for the identification of illicit drugs to determine violations of harmful and narcotic drug laws.
*Trained in the use of complex analytical instrumentation, microscopes and balances for the purpose of drug analysis.
*Maintenance and repairs of all analytical instruments.
*Responsible for the Quality Control of all analytical instruments, reagents and controls/standards.
* Responsible for the Quality Control/Quality Assurance program for the drug lab.
*Notary Public.
*Qualified as an expert witness in Massachusetts Courts and U.S. District Court

2001 – 2003
QC Analyst I, II, UMMS-Massachusetts Biologic Laboratory, QC Material Control

*Completed proficiency training conducted by a member of the staff within the MLB Quality Control and Quality Assurance Department.
*Method Development for creating new techniques and enhancing vaccines for the QC Dept. and FDA.
*Writing, revising and reviewing Standard Operating Procedures (SOPs).
*Trained and supervised new chemists and interns for the department.
*Routine QC testing of products for the FDA.
*Trained in the use of complex analytical instrumentation, and balances for the purpose of QC analysis for product and validation projects.
*Calibration, preventive maintenance, QC and QA of analytical instrumentation.
*Complete testing of chemicals for Vendor Validation Project for the FDA.
*Compendial testing and interpretation of the USP, ACS, FCC, AOAC, Merck Index, PDR, etc.

Additional Training:
Dept. of Justice – Forensics Professionals. (numerous trainings)
GLP/GMP course with Massachusetts Biologic Laboratory.
QC/QA training according to FDA Codes and Regulations.
GC and GC/MS courses with Agilent Technologies and Restek.
HPLC course with Waters Cooperation.
FTIR course with Spectros.
TOC training with MBL and Sievers.

Association:
American Chemical Society (ACS)
Northeastern Association of Forensics Science (NEAFS)

Curriculum Vitae

Mai Ngoc Tran

Education

M.S. Medicinal Chemistry (1990)
Northeastern University, Boston, MA
Coursework included: organic & inorganic chemistry, physical chemistry, qualitative and quantitative chemistry, analytical and advanced organic chemistry.

Employment

Chemist II State Laboratory Institute (2001-Present)
Massachusetts Department of Public Health
Drug Analysis Laboratory

- Responsible for the identification of substances to determine violation of the Massachusetts harmful and narcotic drug laws.
- Operate analytical instrumentation, microscopes and balances for forensic drug analysis

Chemist I State Laboratory Institute (1986-2001)
Massachusetts Department of Public Health
Drug Analysis Laboratory

- Responsible for the identification of substance to determine violation of the Massachusetts harmful and narcotic drug laws
- Operate analytical instrumentation, microscopes and balances for forensic drug analysis
- Successfully completed an six week training in the analysis of drugs conducted by senior staff of the Department of Public Health, Drug Analysis Laboratory
- Appointed assistant analyst for the Department of Public Health, Drug Analysis Laboratory in 1986.

Laboratory Technician State Laboratory Institute (1982-1986)

- Prepared reagents, Blood agar plates.

No. [redacted] Date Analyzed: 12-16-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount:

Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010

No. Analyzed:

Gross Wt.: 38.29

Net Weight: 22.21g

Tests: 3

Prelim: Findings:

No. [redacted] Date Analyzed: 12-13-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount:

Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010

No. Analyzed:

Gross Wt.: 33.58

Net Weight:

Tests: Not Tested

Prelim: Findings:

No. [redacted] Date Analyzed: 12-13-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount:

Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010

No. Analyzed:

Gross Wt.: 34.61

Net Weight:

Tests: Not Tested

Prelim: Findings:

No. [redacted] Date Analyzed: 12-16-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount:

Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010

No. Analyzed:

Gross Wt.: 41.71

Net Weight: 25.539

Tests: 3

Prelim: Findings:

No. [redacted] Date Analyzed: 12-13-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount:

Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010

No. Analyzed:

Gross Wt.: 36.16

Net Weight:

Tests: Not Tested

Prelim: Findings:

$Vm + PB = 40.95$

$PB = 15.42$

$Vm = 25.53$

34

$Vm + PB = 37.67$

$PB = 15.48$

$Vm = 22.21$

34

34

34

No. [redacted] Date Analyzed: 12-16-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount: Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010 No. Analyzed:

Gross Wt.: 21.42 Net Weight:

envelope = 6.03g # Tests: 3

marijuana

Prelim: Findings: mar

No. [redacted] Date Analyzed: 12-13-10

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount: Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 11/12/2010 No. Analyzed:

Gross Wt.: 21.39 Net Weight:

Tests:

Not Tested

Prelim: Findings:

Orea

34

34

No. [redacted] Date Analyzed: 2-28-11

City: Plymouth Police Dept.

Officer: Detective ROBERT MORSE

Def: [redacted]

Amount: Subst: VM

No. Cont: 1 Cont: pb

Date Rec'd: 12/14/2010 No. Analyzed:

Gross Wt.: 76.14 Net Weight: 41.3

Tests: 3 A S D
micro macro
dup-D

Prelim: Findings: marijuana

Gross wt = 46.9

Pkg wt = 5.6

Net wt = 41.3

PART III B

METHODS OF ANALYSIS/DRUG IDENTIFICATION

1 Introduction

The purpose of PART III B is to recommend minimum standards for the forensic identification of commonly seized drugs. It is recognized that the correct identification of a drug or chemical depends on the use of an analytical scheme based on validated methods and the competence of the analyst. SWGDRUG requires the use of multiple uncorrelated techniques. It does not discourage the use of any particular method within an analytical scheme and it is accepted that unique requirements in different jurisdictions may dictate the actual practices followed by a particular laboratory.

2 Categorizing analytical techniques

Techniques for the analysis of drug samples may be classified into three categories based on their discriminating power. Table 1 provides examples of these techniques listed in order of decreasing discriminating power from A to C.

Table 1: Categories of Analytical Techniques

Category A	Category B	Category C
Infrared Spectroscopy	Capillary Electrophoresis	Color Tests
Mass Spectrometry	Gas Chromatography	Fluorescence Spectroscopy
Nuclear Magnetic Resonance Spectroscopy	Ion Mobility Spectrometry	Immunoassay
Raman Spectroscopy	Liquid Chromatography	Melting Point
	Microcrystalline Tests	Ultraviolet Spectroscopy
	Pharmaceutical Identifiers	
	Thin Layer Chromatography	
	Cannabis only: Macroscopic Examination Microscopic Examination	

3 Identification criteria

SWGDRUG recommends that laboratories adhere to the following minimum standards:

3.1 When a validated Category A technique is incorporated into an analytical scheme, then at least one other technique (from either Category A, B or C) shall be used.

3.1.1 This combination shall identify the specific drug present and shall preclude a false positive identification.

3.1.2 When sample size allows, the second technique should be applied on a separate sampling for quality assurance reasons. When sample size is limited, additional measures should be taken to assure that the results correspond to the correct sample.

3.1.3 All Category A techniques shall have data that are reviewable.

3.2 When a Category A technique is not used, then at least three different validated methods shall be employed.

3.2.1 These in combination shall demonstrate the identity of the specific drug present and shall preclude a false positive identification.

3.2.2 Two of the three methods shall be based on uncorrelated techniques from Category B.

3.2.3 A minimum of two separate samplings should be used in these three tests. When sample size is limited, additional measures should be taken to assure that the results correspond to the correct sample.

3.2.4 All Category B techniques shall have reviewable data.

3.3 For the use of any method to be considered of value, test results shall be considered "positive." While "negative" test results provide useful information for ruling out the presence of a particular drug or drug class, these results have no value toward establishing the forensic identification of a drug.

3.4 In cases where hyphenated techniques are used (e.g. gas chromatography-mass spectrometry, liquid chromatography-diode array ultraviolet spectroscopy), they will be considered as separate techniques provided that the results from each are used.

3.5 Cannabis exhibits tend to have characteristics that are visually recognizable. Macroscopic and microscopic examinations of cannabis will be considered, exceptionally, as uncorrelated techniques from Category B when observations include documented details of botanical features. Additional testing shall follow the scheme outlined in sections 3.1 or 3.2.

3.5.1 For exhibits of cannabis that lack sufficient observable macroscopic and microscopic botanical detail (e.g. extracts or residues), Δ^9-tetrahydrocannabinol (THC) or other cannabinoids shall be identified utilizing the principles set forth in sections 3.1 and 3.2.

3.6 An identification of botanical material may be made utilizing morphological characteristics alone provided sufficient botanical features appropriate for identification are observed. Such examinations shall be made by analysts competent in botanical identifications. In this context botanical competence applies to those examiners recognized as professional botanists or those assessed to be competent by such. Identifications of chemical components contained in botanicals (mescaline, opiates, psilocin, etc.) should rely on principles of chemical identification set down in Table 1.

3.7 Examples of reviewable data are:

- printed spectra, chromatograms and photographs or photocopies of TLC plates
- contemporaneous documented peer review for microcrystalline tests
- reference to published data for pharmaceutical identifiers
- recording of detailed descriptions of morphological characteristics for cannabis (only).

4 Comment

These recommendations are minimum standards for the forensic identification of commonly seized drugs. However, it should be recognized that they may not be sufficient for the identification of all drugs in all circumstances. Within these recommendations, it is up to the individual laboratory's management to determine which combination of analytical techniques best satisfies the requirements of its jurisdiction.